



Paul S. Holik
115 Union Valley Road
Oak Ridge, TN 37830
865-241-3410

Electrical Safety Committee

Dear all,

the SNS project will have not only technical challenges during installation, testing, commissioning and subsequent operation, but also engineering challenges, which include work safe practices. It is necessary that the project recognizes and distinguishes work activities during the construction and testing phase of the project, as well as commissioning and operation phase of the project.

1.The initial activity is new installation. Installation describes the activity where new equipment and associated electrical wiring is installed. Good engineering and planning of installation shall prevent exposure of personnel to hazardous energies, i.e., no work shall be performed on energized (live) parts, as described in NFPA 70E Standard for Electrical Safety Requirements for Employee Workplaces. SNS LOTO, if necessary, shall be fully enforced including JHA (job hazard analysis).

2.The second activity is verification and testing of new installations. Verification describes the activity where the new equipment and the associated wiring is examined and approved as per applicable standards and good engineering practices and subsequently energized. Testing describes the activity where energized equipment is being evaluated from safety requirements (testing and measuring of voltages, currents, impedances, etc.) This activity requires work on or near energized (live) electrical parts. The NFPA 70E Standard for Electrical Safety Requirements for Employee Workplace chapter 2 General Requirements for Electrical Work Practices shall be observed. The emphasis is on personnel qualifications, flash boundaries, personal protective equipment and approach distances. Proper planning (JHA) shall minimize hazards to the personnel, e.g. connection of test equipment on de-energized parts. Supervisors shall be responsible for currency of qualifications of personnel assigned to perform these tasks.

3.The third activity is commissioning under the guidance of operations and area physicists. This again includes verification and testing as well as proper functionality of integrated electrical systems. This may include verification and testing, therefore all in the second paragraph applies to this activity from electrical safety point of view.

The fourth activity is maintenance. Maintenance describes activity where tested and commissioned equipment is being worked on to keep

equipment and associated systems in good operational condition, also known as preventive maintenance. This activity is usually a scheduled activity, where work on energized equipment shall be prevented by all means - SNS LOTO and NFPA70E shall be fully enforced.

The fifth activity is repair. Repair describes activity where work is being performed on equipment to restore the equipment into a good operating condition, usually after equipment failure. This activity shall be performed with the equipment de-energized.

If the impact of de-energizing of the equipment will cause a significant monetary loss to the project, the project management with operations shall identify such repair work early, possibly during commissioning phase (e.g. CHL), and carefully evaluate the necessity of repairs on energized equipment. Electrical Safety Committee shall be asked for an independent evaluation.

The emphasis again shall be on personnel qualifications, flash boundaries, personal protective equipment and approach distances. Proper planning (JHA) shall minimize hazards to the personnel, e.g. bypassing the energized equipment so the main work can be done on de-energized parts.

Supervisors shall be responsible for currency of qualifications of personnel assigned to perform these tasks.